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SENDING ALL THE RIGHT SIGNALS

Belden IBDN Systems Performance - Always a Step Beyond Standards

When comparing system performance be sure to compare worst case scenarios - See Typical vs. Guaranteed Performance White Paper

	Category 6A				Category 6								Category 5e			
	Frequency	Standards[1]	IBDN 10GX Performance	IBDN 10GX Margin	Frequency	Standards[2]	IBDN 4800 Performance	IBDN 4800 Margin	IBDN 3600 Performance	IBDN 3600 Margin	IBDN 2400 Performance	IBDN 2400 Margin	Frequency	Standards[3]	IBDN 1200 Performance	IBDN 1200 Margin
Available Bandwidth		500 MHz	625 MHz	125 MHz		200 MHz	300 MHz	100 MHz	280 MHz	80 MHz	250 MHz	50 MHz		100 MHz	160 MHz	60 MHz
PSNEXT [a]	100 MHz	37.1 dB	40.6 dB	3.5 dB	100 MHz	37.1 dB	45.1 dB	8.0 dB	45.1 dB	8.0 dB	41.1 dB	4.0 dB	100 MHz	27.1 dB	32.7 dB	5.6 dB
	250 MHz	30.2 dB	33.7 dB	3.5 dB	200 MHz	31.9 dB	39.9 dB	8.0 dB	39.9 dB	8.0 dB	35.9dB	4.0 dB	160 MHz	23.5 dB[4]	29.4 dB	5.9 dB
	500 MHz	23.2 dB	26.7 dB	3.5 dB	250 MHz	30.2 dB	37.2 dB	7.0 dB	37.2 dB	7.0 dB	34.2 dB	4.0 dB				
	625 MHz	20.7 dB[4]	22.2 dB	1.5 dB	300 MHz	28.8 dB[4]	34.8 dB	6.0 dB	34.8 dB	6.0 dB						
Insertion Loss [b]	100 MHz	20.9 dB	20.3 dB	0.6 dB	100 MHz	21.3 dB	18.5 dB	2.8 dB	19.9 dB	1.4 dB	20.2 dB	1.1 dB	100 MHz	24.0 dB	22.3 dB	1.7 dB
	250 MHz	33.9 dB	32.9 dB	1.0 dB	200 MHz	31.5 dB	27.3 dB	4.2 dB	29.3 dB	2.2 dB	30.0 dB	1.5 dB	160 MHz	31.2 dB[4]	29.1 dB	2.1 dB
	500 MHz	49.3 dB	47.9 dB	1.5 dB	250 MHz	35.9 dB	31.1 dB	4.8 dB	33.3 dB	2.6 dB	34.1 dB	1.8 dB				
	625 MHz	53.8 dB[4]	53.8 dB	---	300 MHz	40.1 dB[4]	34.6 dB	5.5 dB	37.1 dB	3.0 dB						
PSACR-N [a]	100 MHz	16.1 dB	20.3 dB	4.2 dB	100 MHz	15.8 dB	26.6 dB	10.8 dB	25.2 dB	9.4 dB	20.9 dB	5.1 dB	100 MHz	3.1 db	10.4 dB	7.3 dB
formely PSACR	250 MHz	-3.7 dB	0.8 dB	4.5 dB	200 MHz	0.4 dB	12.6 dB	12.2 dB	10.6 dB	10.2 dB	5.9 dB	5.5 dB	160 MHz	-7.7 dB[4]	0.3 dB	8.0 dB
	500 MHz	-26.1 dB	-21.2 dB	4.9 dB	250 MHz	-5.7 dB	6.1 dB	11.8 dB	3.9 dB	9.6 dB	0.1 dB	5.8 dB				
	625 MHz	-33.1 dB[4]	-31.6 dB	1.5 dB	300 MHZ	-11.3 dB[4]	0.2 dB	11.5 dB	-2.3 dB	9.0 dB						
PSACR-F [a]	100 MHz	20.3 dB	30.3 dB	10.0 dB	100 MHz	20.3 dB	28.3 dB	8.0 dB	28.3 dB	8.0 dB	25.8 dB	5.5 dB	100 MHz	14.4 dB	20.0 dB	5.6 dB
formerly PSELFEXT	250 MHz	12.3 dB	22.3 dB	10.0 dB	200 MHz	14.2 dB	22.2 dB	8.0 dB	22.2 dB	8.0 dB	19.7 dB	5.5 dB	160 MHz	10.3 dB[4]	15.9 dB	5.6 dB
	500 MHz	6.3 dB	16.3 dB	10.0 dB	250 MHz	12.3 dB	20.3 dB	8.0 dB	20.3 dB	8.0 dB	17.8 dB	5.5 dB				
	625 MHz	4.3 dB[4]	12.3 dB	8.0 dB	300 MHZ	10.7 dB[4]	18.7 dB	8.0 dB	18.7 dB	8.0 dB						
Return Loss [a] [c]	100 MHz	12.0 dB	14.0 dB / 16.0 dB	2.0 dB / 4.0 dB	100 MHz	12.0 dB	14.0 dB / 16.0 dB	2.0 dB / 4.0 dB	14.0 dB / 16.0 dB	2.0 dB / 4.0 dB	14.0 dB / 16.0 dB	2.0 dB / 4.0 dB	100 MHz	10.0 dB	12.0 dB	2.0 dB
	250 MHz	8.0 dB	10.0 dB / 12.0 dB	2.0 dB / 4.0 dB	200 MHz	9.0 dB	11.0 dB / 13.0 dB	2.0 dB / 4.0 dB	11.0 dB / 13.0 dB	2.0 dB / 4.0 dB	11.0 dB / 13.0 dB	2.0 dB / 4.0 dB	160 MHz	8.0 dB[4]	10.0 dB	2.0 dB
	500 MHz	6.0 dB	8.0 dB	2.0 dB	250 MHz	8.0 dB	10.0 dB / 12.0 dB	2.0 dB / 4.0 dB	10.0 dB / 12.0 dB	2.0 dB / 4.0 dB	10.0 dB / 12.0 dB	2.0 dB / 4.0 dB				
	625 MHz	6.0 dB[4]	6.0 dB	---	300 MHz	7.2 dB[4]	9.2 dB / 11.2 dB	2.0 dB / 4.0 dB	9.2 dB / 11.2 dB	2.0 dB / 4.0 dB						
PSANEXT [a]	100 MHz	60.0 dB	62.0 dB	2.0 dB												
	250 MHz	54.0 dB	56.0 dB	2.0 dB												
	500 MHz	49.5 dB	51.5 dB	2.0 dB												
	625 MHz	48.1 dB[4]	50.1 dB	2.0 dB												
PSAACR-F [a]	100 MHz	37.0 dB	37.0 dB	---												
	250 MHz	29.0 dB	29.0 dB	---												
	500 MHz	23.0 dB	23.0 dB	---												
	625 MHz	21.1 dB[4]	21.1 dB	---												
Propagation Delay [b]		555 ns	530 ns	25 ns		555 ns	490 ns	65 ns	490 ns	65 ns	490 ns	65 ns		555 ns	490 ns	65 ns
Delay Skew [b]		50 ns	40 ns	10 ns		50 ns	25 ns	25 ns	25 ns	25 ns	25 ns	25 ns		50 ns	25 ns	25 ns

(a) Higher Values are Better
(b) Lower Values are Better
(c) The higher value applies to Bonded-Pair cables
[1] Category 6A per TIA 568-B.2-10 and Class EA per ISO 11801 Ed. 2, Amd 1
[2] Category 6 per TIA 568-B.2-1 and ISO Class E per ISO 11801 Ed. 2
[3] Category 5e per TIA 568-B.2-1 and ISO Class D per ISO 11801 Ed. 2
[4] Extrapolated value. Not specified in standards.

Worst-case scenario for 100-m channel, four-connector topology.
All information is subject to change without notice, since Belden reserves the right to change its products as progress in engineering and manufacturing methods or other circumstances may warrant.
Consult Belden IBDN Certification documentation for guaranteed values.

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